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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,366	10/23/2003	Norman Ernest Clough	MI/229	1675

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EXAMINER

ALIMENTI, SUSAN C

ART UNIT	PAPER NUMBER
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3644

DATE MAILED: 03/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/693,366	Applicant(s) CLOUGH, NORMAN ERNEST	
	Examiner Susan C. Alimenti	Art Unit 3644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) 6,9,10,19-21,25-28,30,31,37-39,48,53-56,58 and 60 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7,8,11-18,22-24,29,32-36,40-47,49-52,57 and 59 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2/11/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 6, 9, 10, 19-21, 25-28, 30-31, 37-39, 48, 53-56, 58, and 60 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 2/9/05.

Applicant's election without traverse of the species requirement in the reply filed on 2/9/05 is acknowledged.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5, 7, 8, 11-13, 18, 32-36, 41-42, 49, and 50 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirai (USPN 5,470,655).

Hirai discloses a fiber or line made of polytetrafluoroethylene (PTFE) having a high tensile strength and usable as a fishing line, having a density in the range of 2.0-2.3 g/cc (col.4, lns.28-29), a mass to unit length of 100-2000 denier (col.1, lns.36-38), and a tenacity in the range of 4-8.8 g/denier (Table 1). The PTFE is considered to be expanded PTFE, since it is disclosed that the material undergoes a multi-step stretching process (col.3, lns.38-59).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 22, 29, 40, 57, and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirai.

Hirai discloses the claimed invention except it is not expressly stated that the fibers are placed together in a twisted construction. It would have been obvious to twist Hirai's fibers together, since applicant discloses that constructing a fishing line in monofilament or twisted form is a matter of obvious design choice. Further, Hirai discloses that it is known in the art to twist multiple fibers together during the stretching process in order to improve stability (Hirai, col.2, lns.18-21).

6. Claims 23, 24, 51, and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirai as applied to claims 1 and 32 above, and further in view of Kuzowski (USPN 5,437,900).

Hirai discloses the claimed invention except a surface modification process is not disclosed. Kuzowski teaches that modifying the surface of a PTFE fiber through a plasma treatment is advantageous because it enhances the wettability of the fiber. It would have been obvious to one having ordinary skill in the art at the time the invention was made to perform a plasma surface treatment on Hirai's PTFE fiber in order to increase the water proofing properties.

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7. Claims 1-5, 7, 8, 13-17, 32-36, 43-47, 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanamoto et al. (US 6,207,091), and further in view of Hirai.

Kanamoto discloses a PTFE fiber having a high tensile strength that may be used as a fishing line, however a density is not positively disclosed. Kanamoto's fiber is formed through a multi-stage stretching process (Kanamoto, col.9, 54-59) at temperatures in the range of 300°-370° (col.9, lns.15-19, & col.10, lns.37-67). The resulting fiber has a "tensile modulus exceeding 100Gpa, preferably 120 GPa," (col.10, lns.16-20). Regarding claims 13-17 and 43-47, this tensile modulus range is equivalent to 14.5×10^6 psi to 17.4×10^6 psi.

While Kanamoto does not disclose the density of the material, Hirai discloses a similar high strength PTFE fiber formed through an analogous multi-step stretching process at temperatures in the range of 300°-380° (Hirai, col.3, lns.37-59). The resulting fiber has a high tensile strength, similar to Kanamoto's material, and a density in the range of 2.0 g/cc to 2.2 g/cc (col.3, lns.26-29). It is known that when a material such as PTFE is processed and treated in a particular way, the resulting physical properties remain constant. Since Kanamoto's PTFE fiber is processed similarly to Hirai's fiber, both resulting with high-strength characteristics, it is considered obvious that the densities would also be related, where Kanamoto's material would also have density in the range of 2.0-2.2 g/cc.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan C. Alimenti whose telephone number is 703-306-0360 (on

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or after 4/4/05, 571-272-6897). The examiner can normally be reached on Monday-Friday, 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teri Luu can be reached on 703-305-7421. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SCA


MICHAEL J. CARONE
SUPERVISORY PATENT EXAMINER